# 15 | Reporting Alarm by E-mail

15.1 Try to Report Alarm by E-mail

[Action Example]

Detect the rising of the trigger device (bit device: "M01", "M02", and "M03") of Device/PLC and send a message, which was set in an Excel message sheet corresponding with the trigger device, to A's cellular phone.

Trigger device	Message
"M01"	"Abnormal speed in Line A!"
"M02"	"Abnormal electricity in Line A!"
"M03"	"Line blockage in Line A!"

(Example) When sending a message saying "Abnormal speed in Line A!" with the trigger device set to "M01".
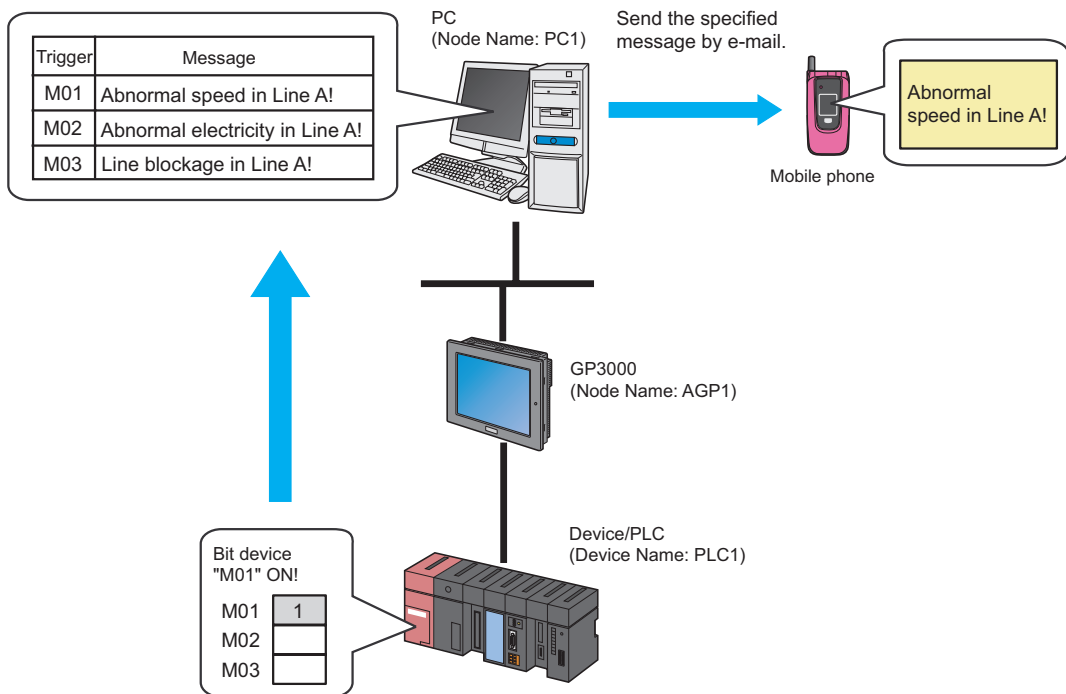
This section describes the setting procedures for executing the above action (ACTION) as an example.

NOTE • Refer to "36 Error Information" for details about errors occurring in 'Pro-Server EX'.

[Setting Procedure]

| 1 | Creating a Message Sheet | This step creates a message sheet containing messages to send in 'Microsoft Excel'. |

| 2 | Starting 'Pro-Studio EX' | This step starts 'Pro-Studio EX'. |

| 3 | Registering Entry Nodes | This step registers the PC and the GPs as entry nodes. |

| 4 | Registering Symbols | This step registers as a symbol the device of Device/PLC which serves as a trigger condition (trigger). |

| 5 | Parameter Setting for Feature (ACTION) | This step sets the following items:
• Login Information
• Mail Contents
• Message Sheet Specification |

| 6 | Setting Trigger Conditions | This step sets conditions (trigger) for e-mailing. |

| 7 | Setting Data Received by ACTION (Trigger Condition 1) | This step sets a constant value to be a keycord of trigger condition 1. |

| 8 | Setting ACTION Node/Process Completion Notification | This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed. |

| 9 | Setting Data Received by ACTION (Trigger Condition 2 and 3) | This step sets constant values to be keycords of trigger condition 2 and 3. |

| 10 | Verifying Setting Result | This step verifies setting results on the setting content list screen. |

| 11 | Saving a Network Project File | This step saves the current settings as a network project file and reloads. |

| 12 | Transferring a Network Project File | This step transfers a saved network project file to the GP. |

| 13 | Executing ACTION | This step verifies that an e-mail is sent to a specified email address when the preset trigger condition has become effective. |

15.1.1   Creating a Message Sheet

This step executes the "Key_Code" row corresponding with transfer data.

For details about transfer data, refer to "15.1.7 Setting Data Received by ACTION (Trigger Condition 1)" later mentioned.
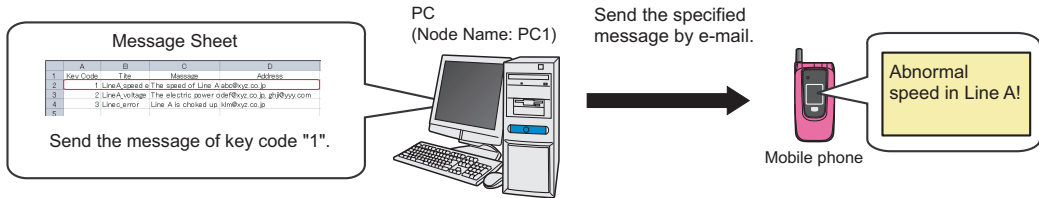
1 Start 'Microsoft Excel' and create the message sheet below in Sheet 1.

[Creation Example]

	A	B	C	D
1	Key Code	Title	Message	Address
2	1	LineA_speed e	The speed of Line A	abc@xyz.co.jp
3	2	LineA_voltage	The electric power o	def@xyz.co.jp, ghji@yyy.com
4	3	Linec_error	Line A is choked up.	klm@xyz.co.jp
5				

You can register data of the same keycode up to 5 units.

2 Save it on PC desktop with the file name "mailmessage.xls" after creating.

> NOTE • You can send not only those prepared in Excel for each case but also a fixed message or data in the device of Device/PLC as a message.

15.1.2 Starting 'Pro-Studio EX'

This step starts 'Pro-Studio EX'.

Refer to "3 Trial of Pro-Server EX" for details about starting method.

15.1.3 Registering Entry Nodes

This step registers as entry nodes the PC and the GPs which serve as trigger conditions (trigger).

Refer to "31 Node Registration" for details about entry nodes.

Node Name   :PC1

IP Address   :192.168.0.1

Node Name   :AGP1

IP Address   :192.168.0.100

Device/PLC Information

Ex.

Entry node	Setting item	Setting example
PC	Node Name	PC1
	IP Address	192.168.0.1
GP	Type	GP3000 series
	Node Name	AGP1
	IP Address	192.168.0.100

15.1.4   Registering Symbols

This step registers as a symbol the device address of Device/PLC from which data is read.

Refer to "32 Symbol Registration" for details about entry nodes.

Ex.
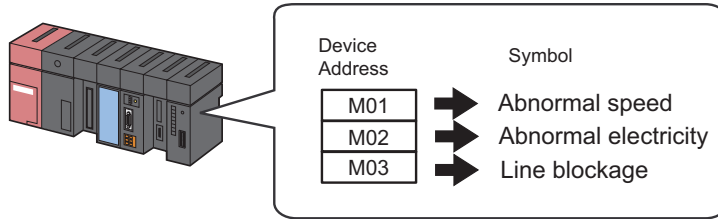
Setting item	Setting content		
Symbol Name	Abnormal Speed	Abnormal Electricity	Line Blockage
Data Type	Bit		
Device address for symbol registration	"M01" of Device/PLC (PLC1)	"M02" of Device/PLC (PLC1)	"M03" of Device/PLC (PLC1)
No. of Devices	1	1	1

15.1.5   Parameter Setting for Feature (ACTION)

This step makes settings to send a message by e-mail. (parameter settings)

Refer to "15.2 Setting Guide" for more details about ACTION parameter.

Ex.
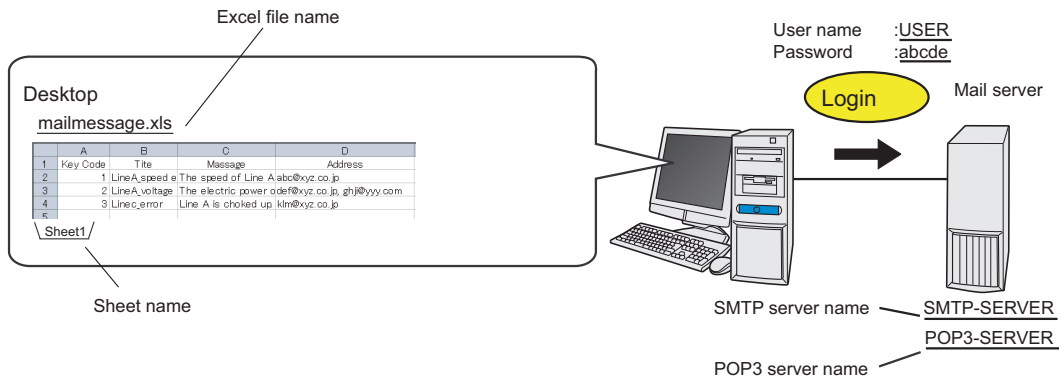
Setting item		Setting content
ACTION Name		Send Mail
Login Information	SMTP Server Name	SMTP-SERVER
	POP Authorization	Yes
	POP3 Server Name	POP3-SERVER
	User Name	USER
	Password	abcde
	Mail Source Address	user@aaa.or.jp
Mail Contents		Send a message prepared in an Excel sheet
Message Sheet	Where to Save Message Sheet	C:\Documents and Settings\Administrator\Desktop
	Excel File Name	Mailmessage.xls
	Sheet Name	Sheet1

1 Click the [Feature] icon on the status bar.
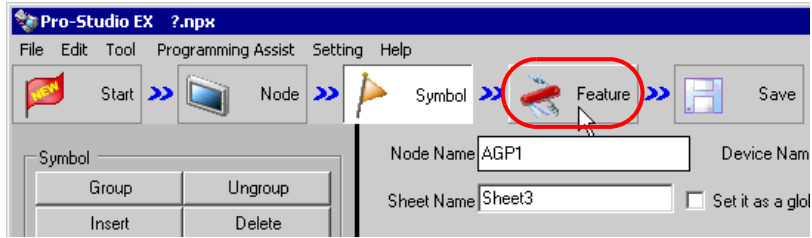
2 Select [ACTION] from the tree display on the left of the screen, then click the [Add] button.
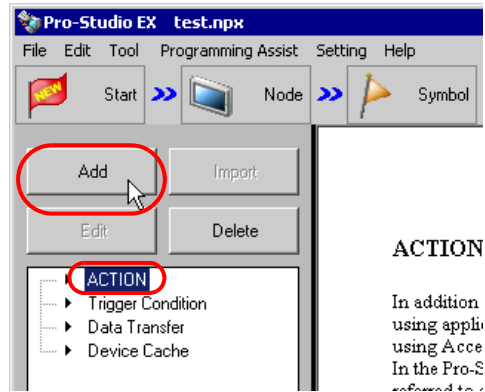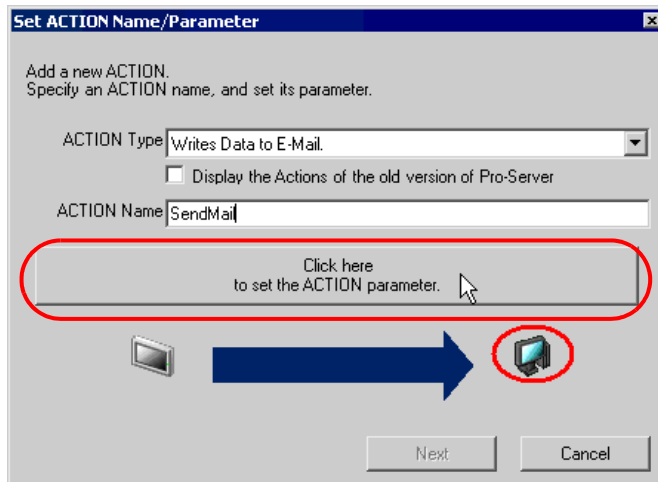
3 Click the [ACTION Type] list button, and select "Writes Data to E-Mail".

Then, enter the name of ACTION to set in the [ACTION Name] field. In this example, enter "Send Mail".

| NOTE | • [ACTION Name] can be an arbitrary name. |
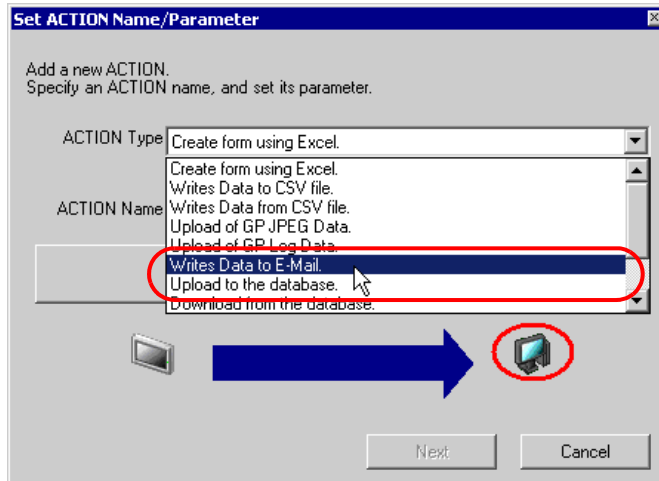
4 Click the [Click here to set the ACTION parameter] button.

5 Set login information.

| NOTE | • For more details about login information setting, contact with your network administrator. |

1) Enter "SMTP-SERVER" as the connecting SMTP server name in [SMTP server name].

What is SMTP server?

Refers to a server for delivering e-mail messages complying with SMTP (Simple Mail Transfer Protocol), a mail transfer protocol (standard for data communication). E-mail messages are sent or received through a computer called "Server" that is always on the Internet. There are two types of servers: for sending and for receiving. SMTP server is typically used to send messages. SMTP server receives an e-mail sent by a user, searches for SMTP server operating on the network of the user to receive the message, and transfers it there.

---
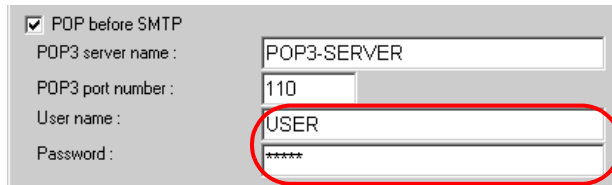
2) Check [POP before SMTP] and enter "POP3-SERVER" in [POP3 server name] as a POP3 server name to authorize.

What are POP3 server and POP authorization?

Refers to a server for receiving e-mail messages complying with POP3 (Post Office Protocol 3), a mail receive protocol (standard for data communication). POP3 server is typically used to receive messages. POP3 server has each mail box address-by-address to put received messages in. When a user receives an e-mail, he/she connects with POP3 server using e-mail software to get the message out of his own mail box.
POP authorization refers to an authorization procedure in sending/receiving e-mails after login to a mail server. Normally, you are to use a user name (account) and a password.

---

3) Enter "USER" in [User name] as a user name for POP3 authorization, and "abcde" in [Password] as a user set password.

☑ POP before SMTP	
POP3 server name :	POP3-SERVER
POP3 port number :	110
User name :	USER
Password :	*****

<table>
<tr><td>NOTE</td><td>• "*****" appears when entering a password.</td></tr>
</table>
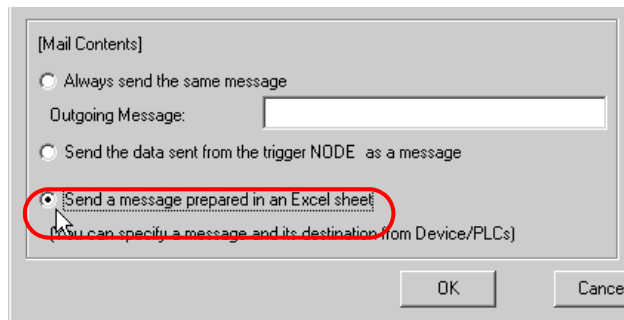
4) Enter the sender's email address "user@aaa.com" in [Sender's Mail address].

Sender's Mail address :	user@aaa.com
Send Mail address :	

<table>
<tr><td>NOTE</td><td>• [Sender's Mail address] becomes effective in case that [Always send the same message] is selected in the next item [Mail Contents] or any destination mail address has not been set on a message sheet.</td></tr>
</table>

6 Make settings regarding mail contents.

Check [Send a message prepared in an Excel sheet].

[Mail Contents]

○ Always send the same message

Outgoing Message:

○ Send the data sent from the trigger NODE as a message

● Send a message prepared in an Excel sheet

(You can specify a message and its destination from Device/PLCs)

OK   Cancel

7 Make settings regarding a message sheet.

　　1)　Select "C:\desktop" to save the message sheet, and select "mailmessage.xls" in [Excel file name] as the message sheet file name, and then "Sheet1" in [Sheet name] as a reference sheet in the message sheet .
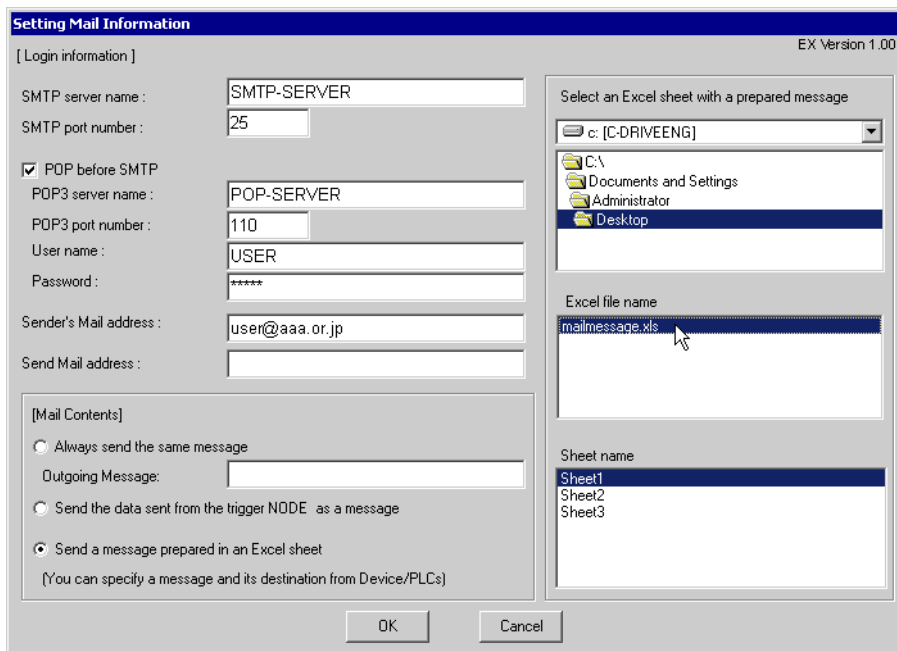
8 Click the [OK] button.

This is the end of the feature (ACTION) settings.

15.1.6   Setting Trigger Conditions

This step sets conditions (trigger bit ON) for e-mailing.

Here, we'll set 3 patterns of trigger conditions.

Refer to "33 Trigger Conditions" for details about trigger conditions.

Ex.

◆ Trigger Condition 1 (Abnormal Speed)

•   Trigger Condition Name: Send the Abnormal Speed message

•   Trigger Condition   : When "Abnormal Speed" (M01) is ON

◆ Trigger Condition 2 (Abnormal Electricity)

•   Trigger Condition Name: Send the Abnormal Electricity message

•   Trigger Condition   : When "Abnormal Electricity" (M02) is ON

◆ Trigger Condition 3 (Line Blockage)

•   Trigger Condition Name: Send the Line Blockage message

•   Trigger Condition   : When "Line Blockage" (M03) is ON

1 On the "Set ACTION Name/Parameter" screen, click the [Next] button.
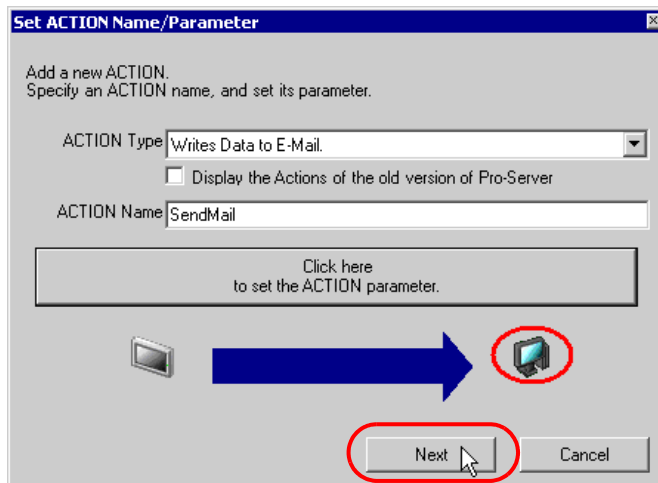
2 Click the [New Trigger Condition] button.
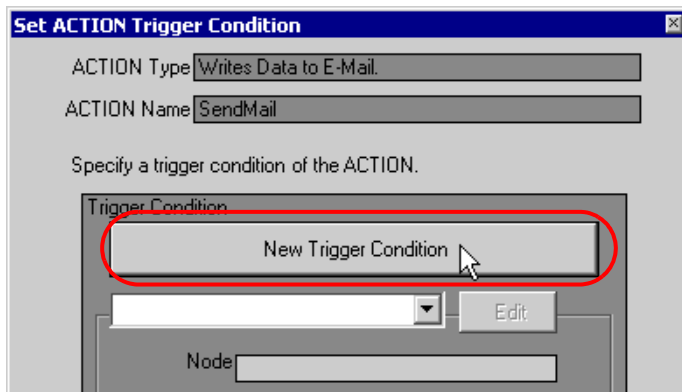
3 Enter the trigger condition name "SendTheAbnormalSpeedMessage" in [Trigger Condition Name], and select "AGP1" in [Node Name] which has the device to serve as the trigger condition (trigger).
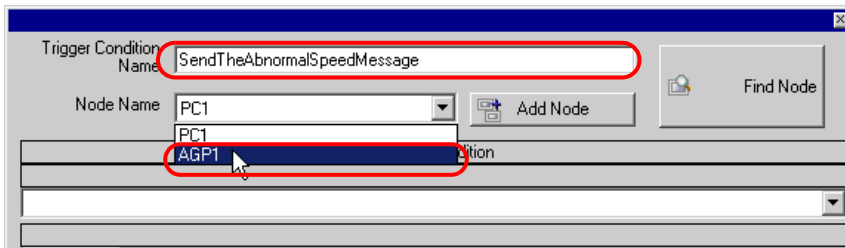
NOTE • Here, you are to specify the node having the device to be the trigger condition or having data to transfer.
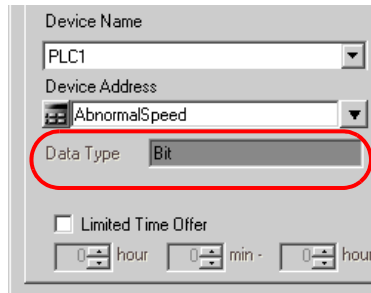
)☞ "33 Trigger Conditions"

4 Click the [When Device ON] button in the [Condition 1] tab and select "PLC1" for the device name.
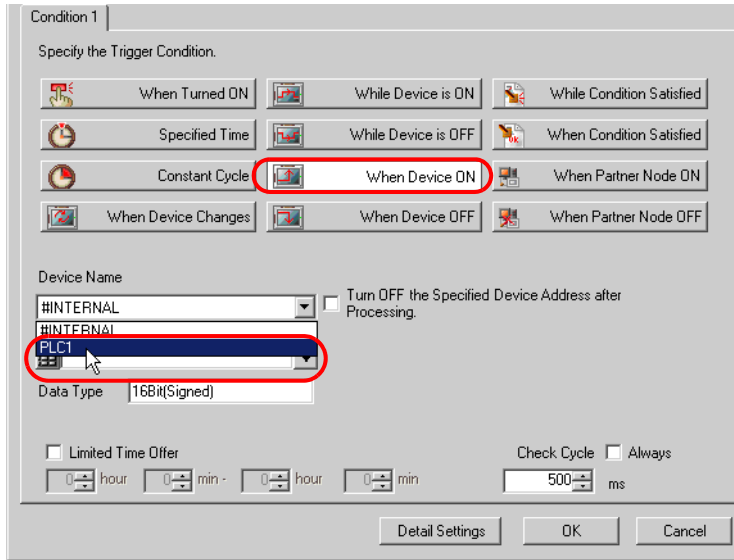
5 Click the [Device Address] list button and select "Abnormal Speed" for the symbol name of the device which serves as the trigger.
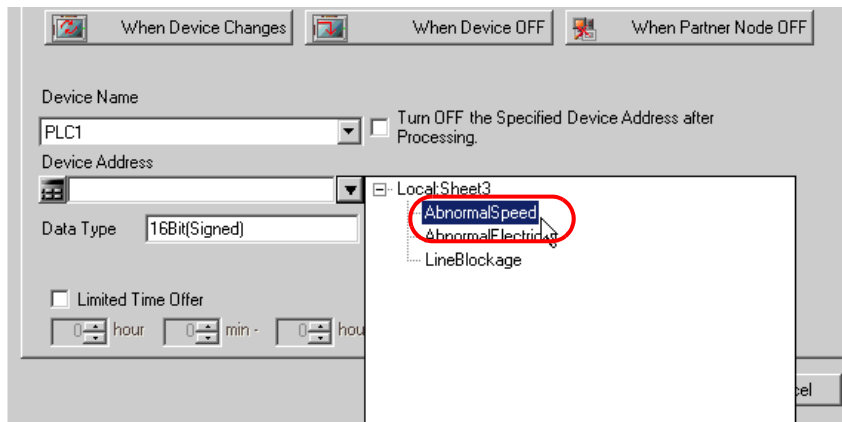
[Data Type] automatically appears after selection, too.

NOTE

• You can also set trigger conditions by combining 2 different types of conditions ("And" condition or "Or" condition).

☞ "33 Trigger Conditions"

6 Click the [OK] button.

7 Click the [New Trigger Condition] button to add trigger condition 2.
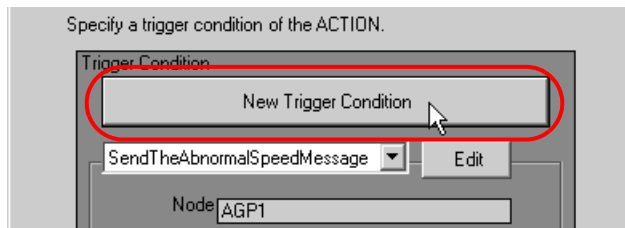
8 Set the items below in the same way as condition 1 and click the [OK] button.

- Trigger Condition Name: SendTheAbnormalElectricityMessage
- Node Name: AGP1
- Trigger Condition: When the device is ON
- Device Name: PLC1
- Device Address: Abnormal Electricity

9 Click the [New Trigger Condition] button to add trigger condition 3, set the items below in the same way as trigger condition 1, and then click the [OK] button.

- Trigger Condition Name: SendTheLineBlockageMessage
- Node Name: AGP1
- Trigger Condition: When the device is ON
- Device Name: PLC1
- Device Address: Line Blockage
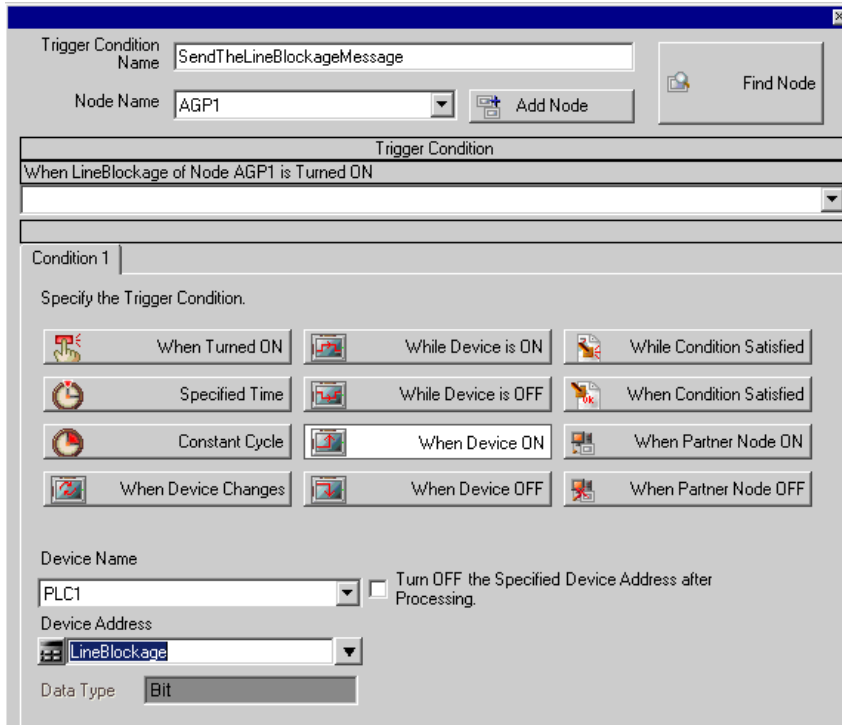
This is the end of trigger condition settings.

## 15.1.7   Setting Data Received by ACTION (Trigger Condition 1)

This step sets data (constant value) to transfer in ACTION.

| NOTE | • On this screen, you are to set the constant value "1" only for trigger condition 1. You can add those for conditions 2 and 3 after ACTION settings. |

Ex.

• Constant value to transfer: 1

1 On the "Set ACTION Trigger Condition" screen, click the [Trigger Condition] list button to select "SendTheAbnormalSpeedMessage", and then click the [Next] button.
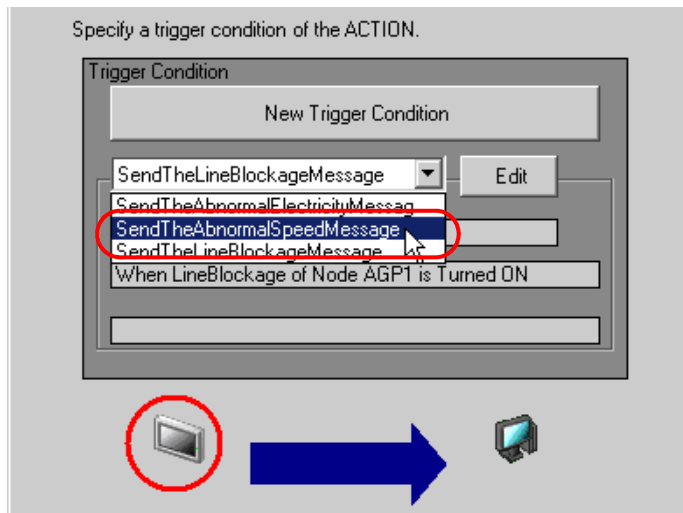
2 After clicking [Constant Value], enter "1" in the text box for the constant value to transfer and "1" in [No.].
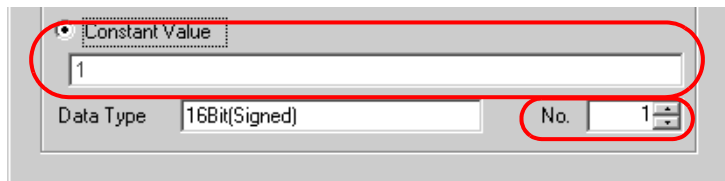
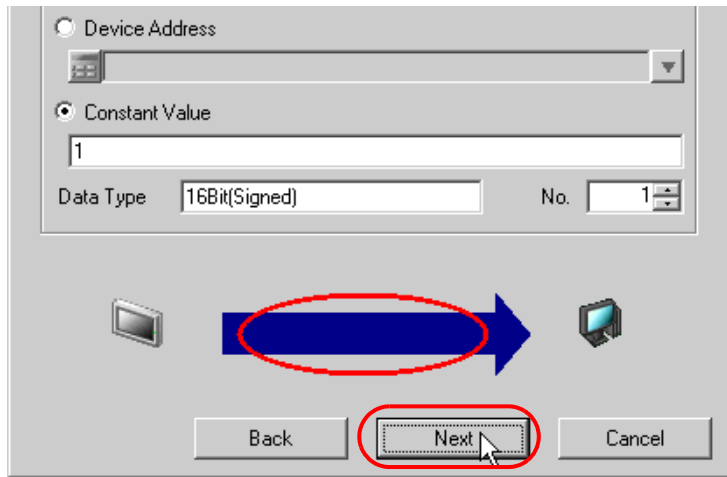This is the end of data settings for condition 1.

15.1.8　Setting ACTION Node/Process Completion Notification

This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed.
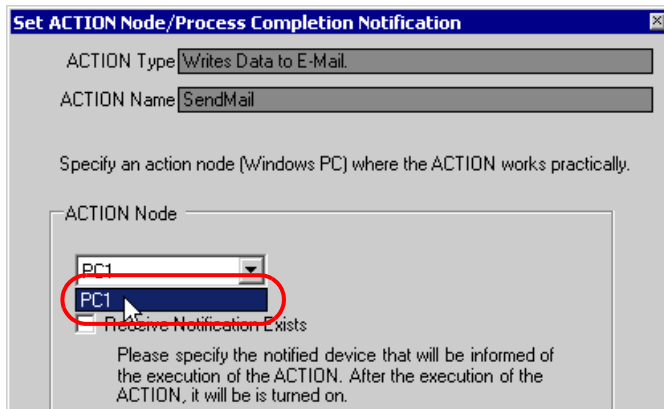
▰▰ Ex. ▰▰

- ACTION Node　　: PC1
- Receive Notification: OFF

1 On the "Data settings to be received by ACTION" screen, click the [Next] button.

2 Click the list button of [ACTION Node] and select "PC1" as a node where ACTION operates. Also, clear the check if [Receive Notification Exists] has been checked.


NOTE • When "Receive Notification Exists" is turned on, the specified bit device will be turned on when the ACTION is completed. This can be used as the trigger condition (trigger) of the subsequent ACTION when you want to execute two or more ACTIONs sequentially.

☞ "33 Trigger Conditions"

---

3 Click the [Complete] button.

The "Set ACTION Node/Process Completion Notification" screen will disappear. On the left of the screen, the ACTION and trigger condition names you set will appear.
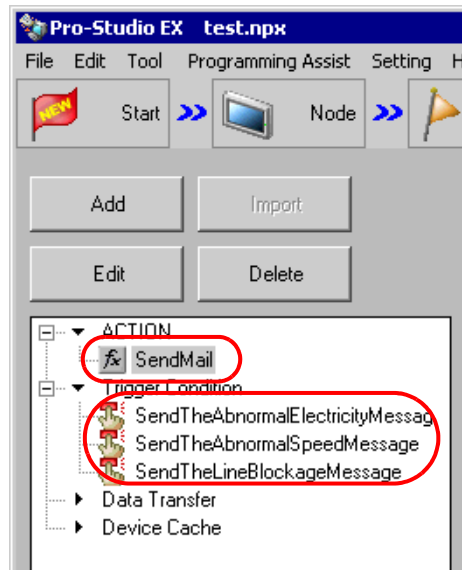
This is the end of the settings of the ACTION node and process completion notification.
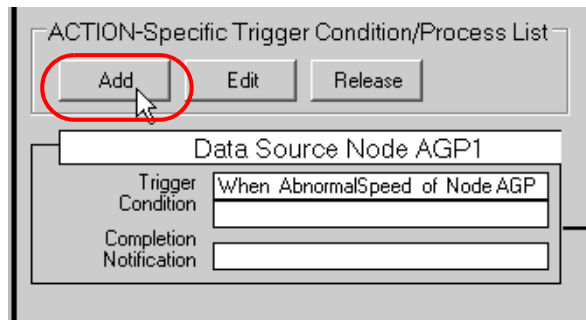
15.1.9   Setting Data Received by ACTION (Trigger Condition 2 and 3)

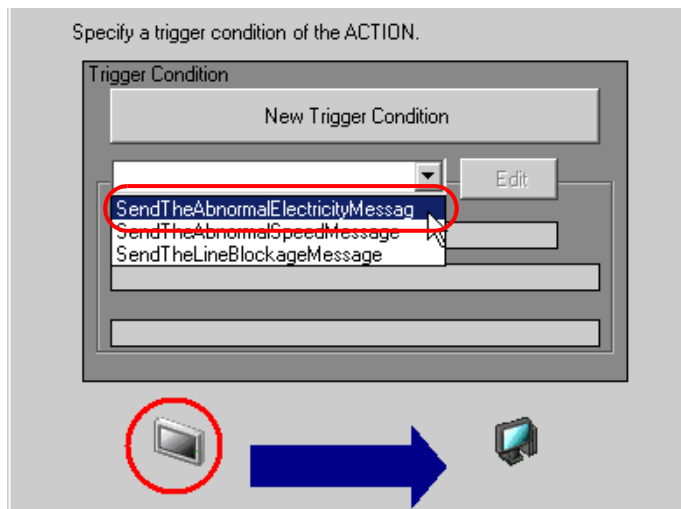This step sets the constant values of trigger condition 2 and 3.

Ex.

- Device name as transfer source   PLC1
- Constant value to transfer of trigger condition 1: 2
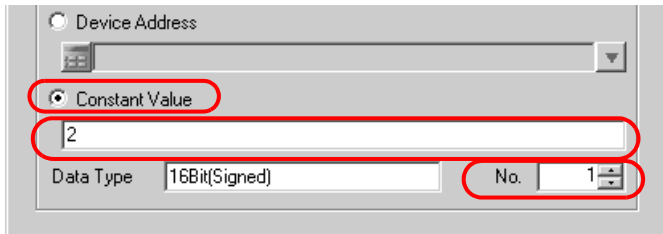- Constant value to transfer of trigger condition 2: 3
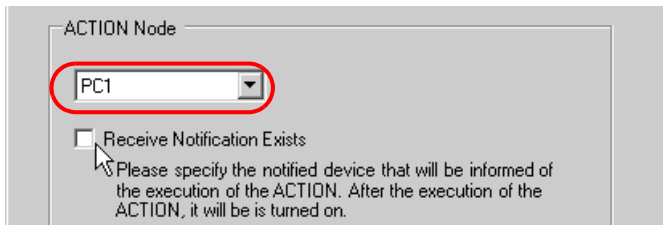
1 Click the [Add] button.

2 Click the [Trigger Condition] list button to select "SendTheAbnormalElectricityMessage", and then click the [Next] button.
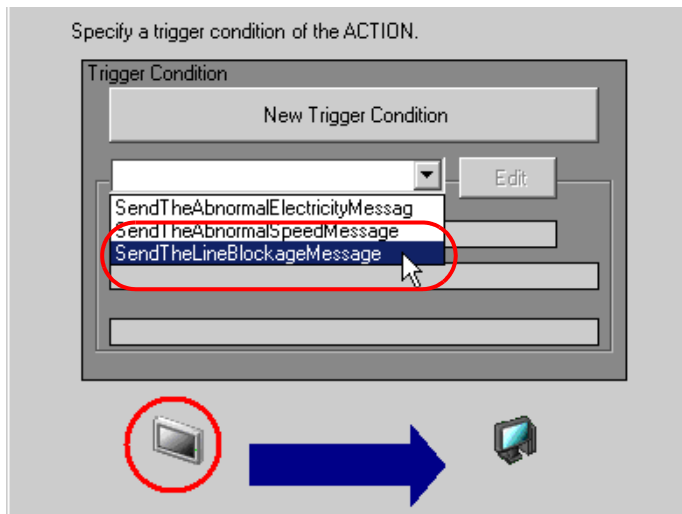
3 Click [Constant Value] to enter "2", and click the [Next] button.

4 After selecting "PC1" in [ACTION Node], click the [End] button.

5 Click the [Trigger Condition] button to select "SendTheLineBlockageMessage" from the list button, and then set the constant value "3" in the same way.
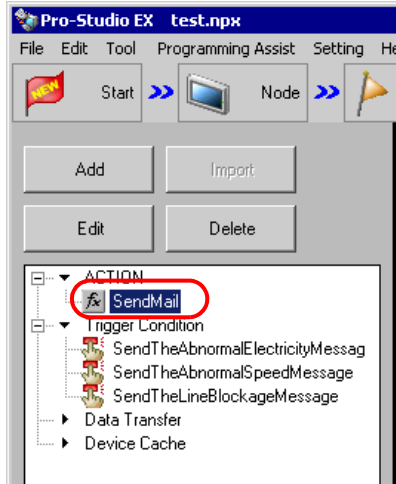

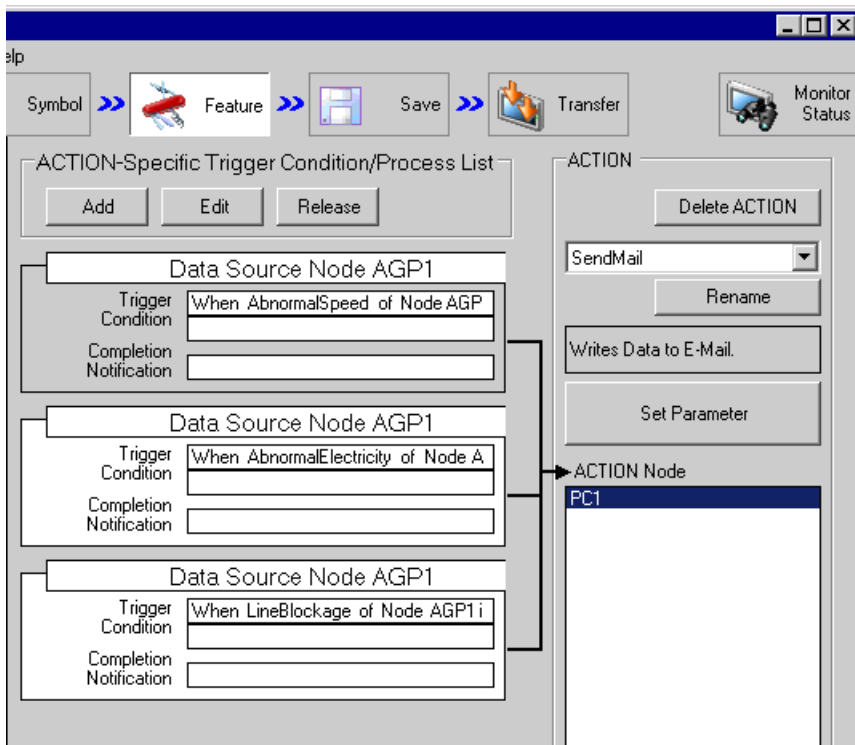This is the end of data settings for condition 2 and 3.

15.1.10　Verifying Setting Result

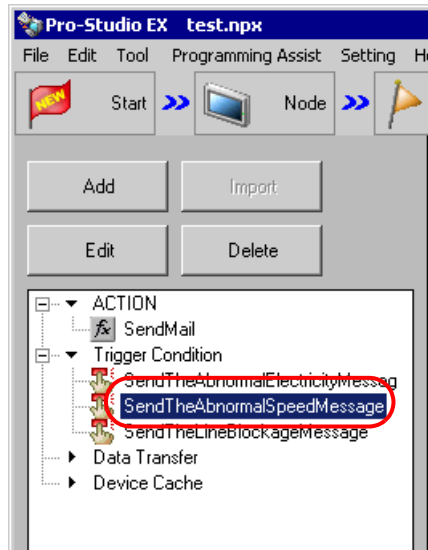This step verifies setting results on the setting content list screen.

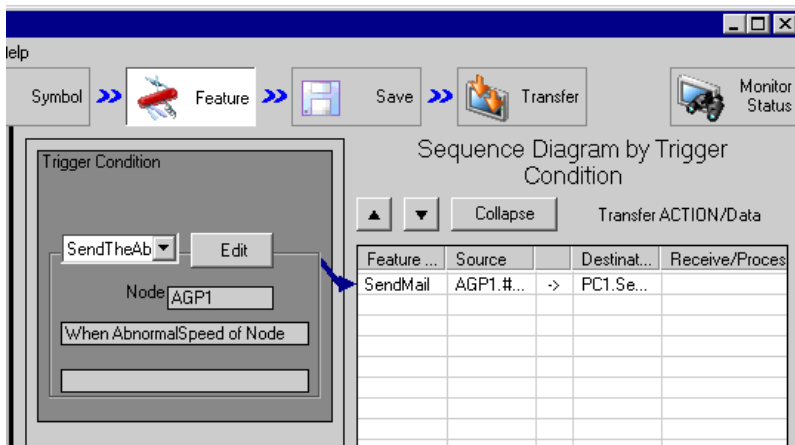1 Click the ACTION name "Send Mail" from the tree display on the left of the screen.

Confirm that the setting content appears on the right of the screen.

2 Click each trigger condition name from the tree display on the left of the screen.

Confirm that the setting content appears on the right of the screen.

This is the end of the verification of the settings.

15.1.11   Saving a Network Project File

This step saves the current settings as a network project file and reloads to 'Pro-Server EX'.

Refer to "25 Saving" for details about saving a network project file.

IMPORTANT • 'Pro-Server EX' reads a created network project file, and then executes ACTION according to the settings in the file. The settings therefore need be saved in the network project file.
• Be sure to reload the network project file to 'Pro-Server EX'. If not, ACTION will not work.

Ex.

• Path of network project file   : Desktop\Mail_send.npx
• Title   : Send Mail ACTION

15.1.12   Transferring a Network Project File

This step transfers a saved network project file to entry nodes.

Refer to "26 Transferring" for details about transferring a network project file.

NOTE • Be sure to transfer a network project file. If not, ACTION will not work.

15.1.13   Executing ACTION

This step verifies that enabling a trigger condition activates ACTION, and sends the message corresponding to the trigger condition to the preset address.
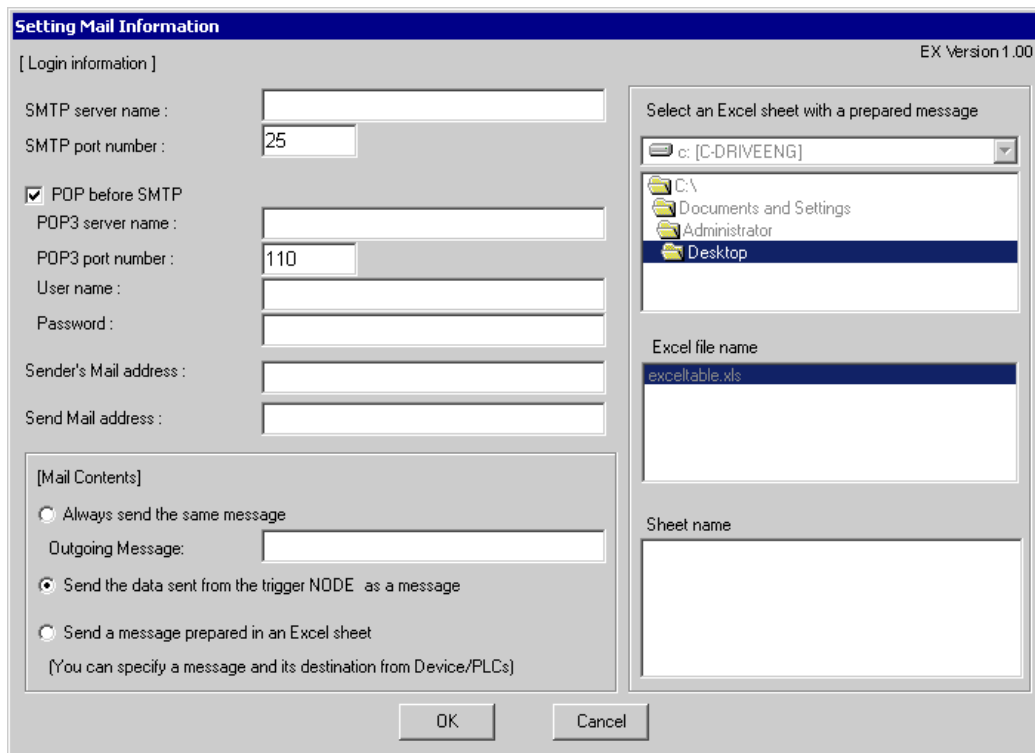
```
To   :[user@aaa.or.jp        ]
Title:[Line A is choked up.  ]
Text :[                      ]
```
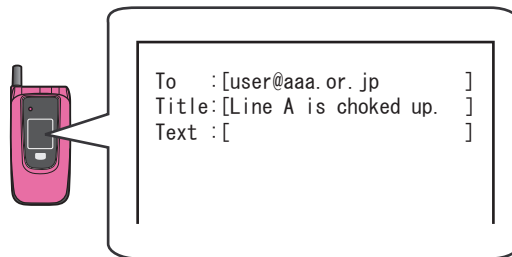
This is the end of the explanation of this ACTION.

NOTE	• If you want to achieve faster communication during ACTION, refer to "29 Tips for Faster Communication".

15.2 Setting Guide

This section explains how to set the parameters of ACTION.

Setting item	Setting content
SMTP server name	Enter the address of the connected SMTP server (Mail Sending Server) with single-byte alphabet or numerical values.
SMTP port number	Enter the PC port No. to communicate with SMTP server with single-byte alphabet or numerical values. Normally enter "25".
POP before SMTP	Check when you want to authorize POP in sending e-mails.
POP3 server name	Enter the server (POP3 server) address for POP authorization with single-byte alphabet or numerical values.
POP3 port number	Enter the PC port No. to communicate with POP3 server with single-byte alphabet or numerical values. Normally enter "110".
User name	Enter the user name for POP authorization.
Password	Enter the password set by the user who performs POP authorization.
Sender's Mail address	Enter the mail source address with single-byte alphabet or numerical value.
Send Mail address	Enter the mail destination address with single-byte alphabet or numerical values if you have set [Always send the same message] for [Mail Contents]. **NOTE** • Use comma (,) in between to enter multiple addresses. • If you have not set any mail address on a message sheet, the message is always sent to this address.

Setting item	Setting content

Mail Contents	• Always send the same message]
	  Sends the message entered in [Outgoing Message:].
	
	    ○ Always send the same message
	    Outgoing Message: [ ]
	
	NOTE
	• The content of [Outgoing Message:] is sent as the title (subject) of the message.
	
	    To :[user@aaa.or.jp]
	    Title :[Abnormal speed in Line A!]
	    Text :[ ]
	
	• Send the data sent from the trigger NODE as a message
	  Sends Device/PLC data transferred in "Set ACTION data" as a message.
	
	    Transfer Source
	    Node
	    AGP1
	    Device Name
	    PLC1
	    ⊙ Device Address
	    D50Data
	    ○ Constant Value
	    Data Type 16Bit(Signed) No. 1
	
	NOTE
	• The content of the outgoing message (Device/PLC data) is sent as the title (subject) of the message.
	  (Example) When data of the device "50" is "10"
	
	    To :[user@aaa.or.jp]
	    Title :[10]
	    Text :[ ]

Setting item	Setting content
Mail Contents	• Send a message prepared in an Excel sheet Sends a preset message in a message sheet. ◆ Message format prepared in Excel <table><tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td></tr><tr><td>1</td><td>Key_Code</td><td>Title</td><td>Message</td><td>Address</td></tr><tr><td>2</td><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td></tr></table>
Folder	Sets the location where a message sheet is stored.
Excel file name	Selects a message sheet file from the Excel file list in a specified folder.
Sheet name	Selects a sheet name to refer in a message sheet.